



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,014	08/18/2003	Ralph Anderson	KCX-723 (19746)	2961
22827	7590	12/21/2005	EXAMINER	
DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			KINNEY, ANNA L	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/643,014

Applicant(s)

ANDERSON ET AL.

Examiner

Anna Kinney

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-35 and 47-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-35 and 47-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

The Examiner notes that the applicant made revisions to the drawings and the specification to overcome objections, and to the claims to overcome 35 USC 112 rejections.

The indicated allowability of claims 3-8, 11, 14-20, and 22-35 are withdrawn in view of the newly discovered reference(s) to Schulman et al and Anderson et al, and upon reconsideration of Brooks et al. Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8, 14, 19-25, 47-52, 57, and 60-64 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brooks et al (U.S. Patent 5,277,758) in view of Webster's Dictionary (Webster's Third New International® Dictionary, Unabridged, 1993, Merriam-Webster, Incorporated) and Clark et al (U.S. Patent 3,250,666).

With respect to claim 1, Brooks et al discloses a method (col. 1, lines 15 to 20 and 25 to 30), said method comprising mechanically treating broke (col. 6, lines 1 to 9) containing cellulosic fibers and a latex polymer (col. 1, lines 23 to 28) to form fiber

Art Unit: 1731

aggregates (col. 6, lines 20 to 25), wherein said fiber aggregates have an average size of less than  $\frac{1}{2}$  an inch (col. 8, lines 30 to 34), which encompasses the claimed range of from about 0.5 to about 6 millimeters, and wherein a first portion of said fiber aggregates are coated with said latex polymer (col. 8, lines 14 to 15) and a second portion of said fiber aggregates remain relatively free from said latex polymer (col. 8, lines 15 to 16).

Brooks et al does not disclose expressly that the polyethylene is a latex polymer, or that the second portion of said fiber aggregates are relatively free from said latex polymer.

Webster's Dictionary defines latex as any of various emulsions in water of a synthetic rubber or plastic obtained by polymerization and used chiefly in paint and other coatings (as for paper) and adhesives. The Examiner has interpreted "latex polymer" to mean either a polymer in an emulsion or a polymer remaining after water has been removed from a latex emulsion. Brooks et al provides no indication that the polyethylene coating could not have existed as a latex emulsion prior to coating paper. The Examiner is considering the polyethylene coating of the reference to be equivalent to the latex polymer of the claim.

Clark et al discloses the use of a polyethylene latex in a method of forming cellulosic paper (col. 1, lines 14-17).

Although Brooks et al does not discuss the amount of polymer coating the two portions of fiber aggregates, the patent does describe the first portion as having less than 10 weight % paper, and the second portion as having greater than 10 weight %

Art Unit: 1731

paper (col 8, lines 14-16). In other words, the second portion has more fiber relative to fiber than does the first portion. Therefore, the second portion is relatively free of polymer in comparison to the first portion.

The portion distribution of Brooks et al is also applied to claims 6, 7, 8, 19, 20, 60, and 61.

The size range of Brooks et al, less than  $\frac{1}{2}$  an inch, is also applied to claim 3.

With respect to claims 4 and 5, at the time of the invention, it would have been obvious to a person of ordinary skill in the art that if the method was done using the same parameters for the broke under the same conditions, the resulting fiber aggregates would have the same Freeness as that claimed.

With respect to claim 14, Brooks does not disclose expressly that the broke is derived from a product that comprises a multi-layered paper web. However, Brooks does disclose that the broke is derived from products such as milk cartons (col. 1, lines 23-30), which comprise either a single-layer or multi-layer paper product with a layer of waterproof material. Therefore, the Examiner considers milk cartons to represent a product that comprises a multi-layered paper web.

With respect to claim 21, Brooks discloses forming a paper product that contains said fiber aggregates (col. 1, lines 31 to 35).

With respect to claim 22, Brooks discloses that the paper product may be molded paper cups, trays, plates, egg cartons, and the like (col. 1, lines 31-35), all of which can be produced from a multi-layered web.

With respect to claims 23 and 64, Brooks discloses that said fiber aggregates are incorporated into an inner layer of said multi-layered paper web (col. 1, lines 31-35). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the fiber aggregates throughout the paper web. The claim does not exclude the fiber aggregates from being also incorporated into the outer layers of the paper web.

With respect to claim 24-25, at the time of the invention, and in the absence of evidence to the contrary, it would have been obvious to a person of ordinary skill in the art to optimize the content of fiber aggregates in the inner layer to achieve desired properties. The wide range claimed suggests a lack of criticality of this factor.

With respect to claims 47, 48, 49, and 50, Brooks, Webster's Dictionary, and Clark are applied as in the rejection to claims 1, 4, and 5.

With respect to claims 51 and 52, Brooks, Webster's Dictionary, and Clark are applied as in the rejection to claims 6 and 8.

With respect to claim 57, Brooks, Webster's Dictionary, and Clark are applied as in the rejection to claim 14.

With respect to claim 62, Brooks, Webster's Dictionary, and Clark are applied as in the rejection to claim 21.

With respect to claim 63, Brooks, Webster's Dictionary, and Clark are applied as in the rejection to claim 22.

With respect to claim 64, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the resulting fiber aggregates in any appropriate way desired.

Brooks et al and Clark et al are analogous art because they are from the same field of endeavor, that of processing polymer-coated paper.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the polyethylene of Clark et al in the latex polymer of Brooks et al to obtain the invention as specified in Claims 1, 3-8, 14, 19-25, 47-52, 57, and 60-64, because polyethylene solids can be made uniformly white and interfere little with the optical properties of the final paper product (Clark et al, col. 1, lines 40 to 42).

Claims 15-18, 32, 58, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al in view of Webster's Dictionary and Clark et al as applied to claims 1, 14, 27, and 57 above, and further in view of Anderson et al (US 2001/0031595 A1).

Brooks et al in view of Webster's Dictionary and Clark et al do not disclose expressly the application characteristics of the polymer coating of the furnish broke.

Anderson et al discloses that the product contains said latex polymer in a spaced-apart pattern (p.2, ¶0027, last sentence), the polymer covers % of said surface (p. 1, ¶0016), and said surface is creped (p. 1, ¶0015).

Brooks et al, Webster's Dictionary, Clark et al, and Anderson et al are analogous art because they are from the same field of endeavor, that of manufacture or reclamation of coated paper.



Art Unit: 1731

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the polymer coating of Brooks et al, Webster's Dictionary, and Clark et al with the application amount, pattern, and creping as described by Anderson to obtain the invention as specified in claims 15-18, 32, 58, and 59. The motivation would have been so that the web has cloth-like properties (p. 2, ¶0019, lines 5-8); and so that it retains liquid after each rinse cycle (p. 2, ¶0022, lines 4-7).

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al, Webster's Dictionary, and Clark et al, as applied to claim 1 above, and further in view of Schulman (US Patent 3,154,255).

Brooks et al, Webster's Dictionary, and Clark et al do not disclose expressly that the latex polymer is selected from the claimed group.

Schulman discloses recovering fibers from materials coated with thermoplastic materials, expressly including polyvinyl chloride, polyolefins, and polyvinyls, thermoplastic polyesters, and polycarbonates (col. 1, lines 20-32). The Examiner considers these to include the remaining members of the Markush group.

Brooks, Webster's Dictionary, Clark, Danforth '342, and Danforth '761, and Schulman are analogous art because they are directed to a similar problem solving area, that of reclaiming coated paper.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the pulping method of Brooks, Webster's Dictionary, Clark, Danforth '342, and Danforth '761 to the thermoplastic coated fibers described by Schulman to obtain the invention as specified in claim 26.



The motivation would have been to obtain a simple, inexpensive, highly efficient method of separating cellulose fibers from a thermoplastic coating (col. 1, lines 20-23).

Claims 9, 12, 13, 53, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al in view of Webster's Dictionary and Clark et al as applied to claim 1, above, and further in view of Danforth (U.S. Patent 4,365,761).

With respect to claim 9, Brooks, Webster's and Clark do not disclose expressly that the mechanical treatment comprises pulping said broke in a pulper.

Danforth discloses that the mechanical treatment comprises pulping said broke (col. 2, lines 40 to 42) in a pulper (Fig. 5, item 20).

With respect to claim 12, Brooks, Webster's and Clark do not disclose expressly that the pulper is a rotor/stator type pulper.

Danforth et al discloses that the pulper is a rotor/stator type pulper (col. 1, lines 13 to 17).

With respect to claim 13, Brooks, Webster's and Clark do not disclose expressly that the mechanical treatment further comprises refining said broke.

Danforth et al discloses that the mechanical treatment further comprises refining (col. 5, lines 61 to 65) said broke.

With respect to claim 53, Brooks et al, Webster's, Clark et al, and Danforth are applied as in the rejection to claim 9.

With respect to claim 55, Brooks et al, Webster's, Clark et al, and Danforth are applied as in the rejection to claim 12.

With respect to claim 56, Brooks et al, Webster's, Clark et al, and Danforth are applied as in the rejection to claim 13.

Brooks et al, Clark et al, and Danforth are analogous art because they are directed to a similar problem solving area, that of reclaiming coated paper.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a rotor/stator type pulper and further refining as described by Danforth to the recycling of polyethylene latex-coated broke of Brooks et al and Clark et al to obtain the invention as specified in claims 9, 12, 13, 53, 55, and 56. The motivation for doing so would have been because this pulper enables processing of difficult to defiber stock (col. 1, lines 22 to 26), and because the pulper produces a defibered condition suitable for introduction to refiners (col. 5, lines 61 to 65).

Claims 10, 11, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al in view of Webster's Dictionary, Clark et al, and Danforth ('761) as applied to claim 9, above, and further in view of Danforth (U.S. Patent 6,302,342).

With respect to 10, Danforth '761 does not disclose expressly that the broke is diluted to a solids consistency of from about 4% to about 10% prior to said pulping.

Danforth ('342) discloses that the broke is diluted to a solids consistency of 5% (col. 4, line 49), which is one specific point within the claimed range of from about 4% to about 10%, prior to said pulping.

With respect to claim 11, 5% consistency is about 6% consistency, which is one specific endpoint of the claimed range of from about 6% to about 8%.

Art Unit: 1731

With respect to claim 54, Brooks et al, Webster's, Clark et al, Danforth ('761) and Danforth ('342) are applied as in the rejection to claim 10, above.

Brooks et al, Clark et al, Danforth ('761) and Danforth ('342) are analogous art because they are directed to a similar problem solving area, that of reclaiming coated paper.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a solids consistency of 5% as described by Danforth ('342) prior to pulping to obtain the invention as specified in claim 10, 11, and 54. The motivation for doing so would have been that at this consistency, a 2,600 gallon tank (a typical capacity) can hold 1,000 pounds of stock (col. 4, lines 46 to 50).

Claims 27-31 and 33-35 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks, Webster's Dictionary, Clark, Danforth '342, and Danforth '761, as applied to claims 1, 3, 6, 8, 9, 10, 11, and 13, 19, 20, 21 above, and further in view of Schulman (US Patent 3,154,255).

With respect to claim 27, Danforth '342 is applied as in the rejection to claim 10, above; Danforth '761 is applied as in the rejections to claims 9 and 13, above; and Brooks, Webster's, and Clark are applied as in the rejection to claim 1, above. Brooks, Webster's Dictionary, Clark, Danforth '342, and Danforth '761 do not disclose expressly that the latex polymer is selected from the claimed group.

Schulman discloses recovering fibers from materials coated with thermoplastic materials, expressly including polyvinyl chloride, polyolefins, and polyvinyls,

Art Unit: 1731

thermoplastic polyesters, and polycarbonates (col. 1, lines 20-32). The Examiner considers these to include the remaining members of the Markush group.

With respect to claims 28, 29, 30, 33, 34, and 35, Brooks, Webster's Dictionary, and Clark are applied as in the rejections to claims 3, 6, 8, 19, 20, and 21, above.

With respect to claim 31, Danforth '342 is applied is in the rejection to claim 11, above.

Brooks, Webster's Dictionary, Clark, Danforth '342, and Danforth '761, and Schulman are analogous art because they are directed to a similar problem solving area, that of reclaiming coated paper.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the pulping method of Brooks, Webster's Dictionary, Clark, Danforth '342, and Danforth '761 to the thermoplastic coated fibers described by Schulman to obtain the invention as specified in claims 27-31 and 33-35.

The motivation would have been to obtain a simple, inexpensive, highly efficient method of separating cellulose fibers from a thermoplastic coating (col. 1, lines 20-23).

### ***Conclusion***

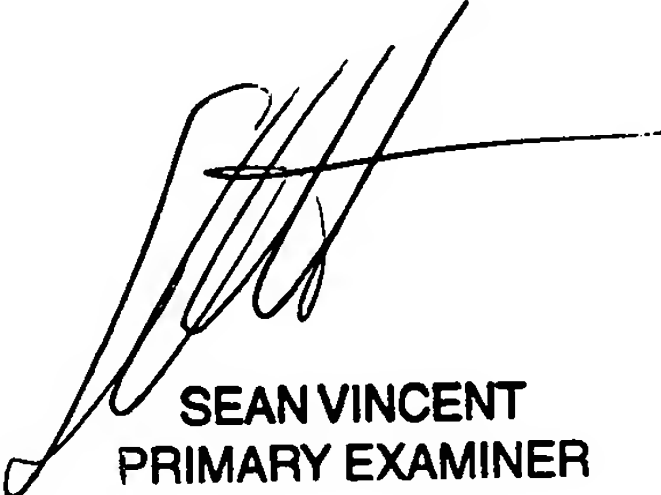
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anna Kinney whose telephone number is (571) 272-8388. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ALK



SEAN VINCENT  
PRIMARY EXAMINER